



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In Reply Refer To:
81420-2010-CPA-0211

MAY 27 2010

Alicia Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Dear Ms. Kirchner:

The Corps of Engineers has requested coordination under the Fish and Wildlife Coordination Act (FWCA) for the Folsom Dam Safety/Flood Damage Reduction Project (Joint Federal Project). The proposed action is construction of the control structure for the new auxiliary spillway. The proposed project would occur southeast of the main Folsom Dam, Sacramento County, California. This letter constitutes the Fish and Wildlife Service's supplemental FWCA report for the proposed project.

Background

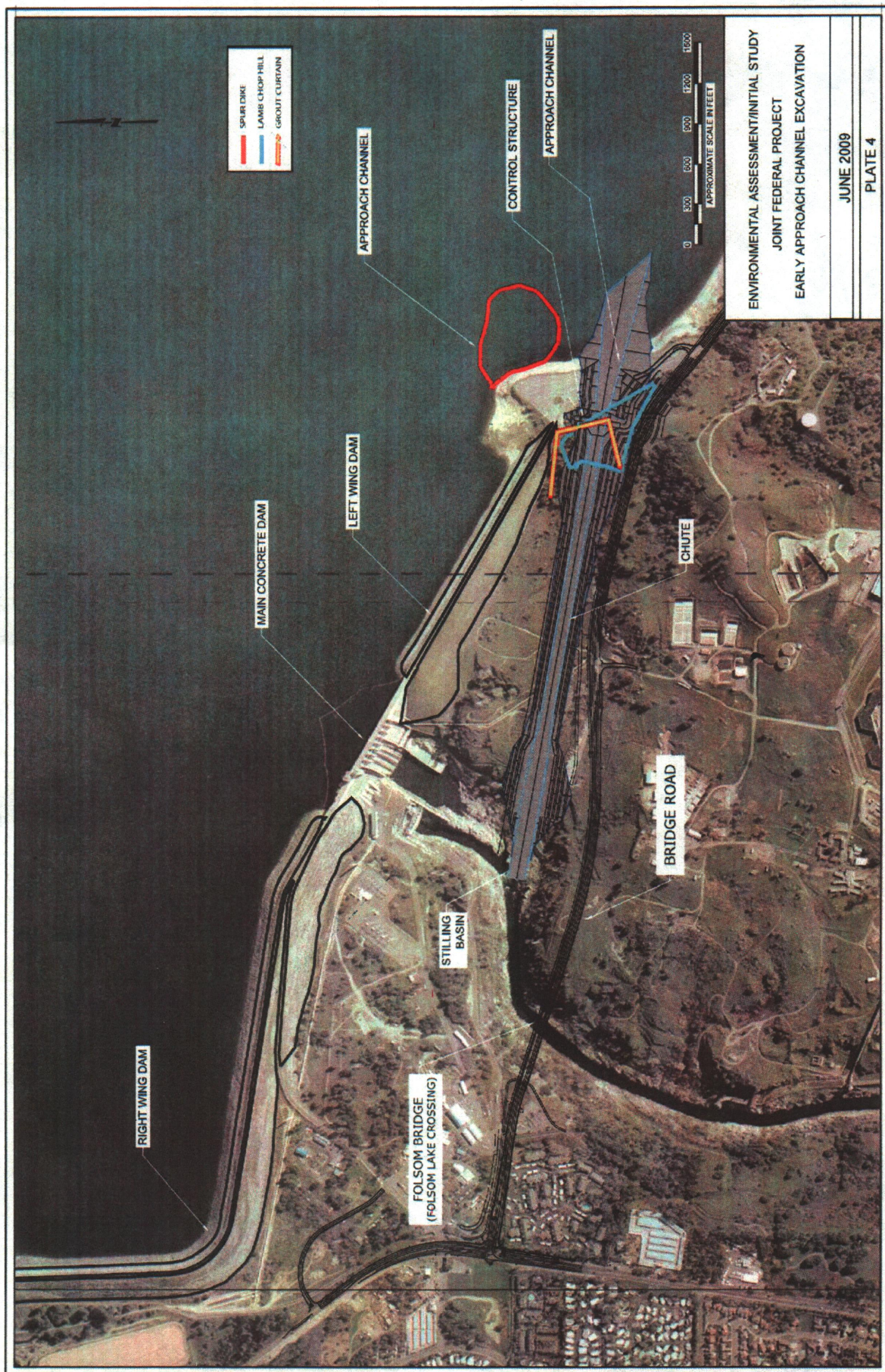
The Final Folsom Dam Safety and Flood Damage Reduction Environmental Impact Statement/Environmental Impact Report (FEIS/FEIR) was issued in March 2007. The Joint Federal Project implements dam safety and security features along with flood damage reduction features at Folsom Dam and its associated facilities (Folsom Facility). The Fish and Wildlife Service (Service) provided a FWCA report for this overall action in April 2007.

The flood damage reduction features of the Joint Federal Project include the construction of a gated auxiliary spillway, southeast of the main dam. Initial excavation of the spillway has been initiated by the Bureau of Reclamation and is expected to be completed in the summer of 2010. As part of the 2007 FEIS/EIR, the evaluation of the auxiliary spillway included the control structure, the lining of the spillway chute and stilling basin. These features were generally addressed and the potential effects, based on the level of design at the time, were analyzed. However, the Corps has completed design refinements for the construction of the control structure, installation of the six tainter gates, the lining of the spillway chute and stilling basin, and exploratory geotechnical borings.

Proposed Project

Folsom Dam is a concrete gravity dam. The main section is flanked by two earthfill wing dams. The new auxiliary spillway is located on the left abutment of the main dam, immediately downstream of the existing left wing dam (Figure 1). The "project area" consists of the site of





ORIGINAL SOURCE: FOLSOM DAM RAISE AND AUXILIARY SPILLWAY ALTERNATIVE, PROJECT ALTERNATIVE SOLUTIONS STUDY II (PASS II) FINAL REPORT, 200. Note: Some project features are graphically represented and are not to scale. The image is for the purpose of illustration only.

Figure 1

the ongoing spillway construction including all haul routes, staging, and disposal areas. The staging areas, disposal areas, and haul roads that would be used for this project were previously evaluated in the 2007 JFP FEIS/EIR. Therefore, the analysis of potential impacts in this report is limited to the site of the control structure construction, the lining of the chute and stilling basin and the location of exploratory borings for the in-reservoir approach channel.

Principal features of the new auxiliary spillway include an 1,100 foot-long approach channel, which begins in Folsom Reservoir; a concrete control structure that regulates releases through the submerged tainter gates, a 2,782-foot long concrete-lined spillway chute (of which the last 682 feet is a stepped concrete chute), and a concrete-lined stilling basin. Flows will discharge onto a rock exit channel before emptying directly into the American River channel downstream of the main Folsom Dam, converging with releases from the main dam.

This latest stage in the Corps' ongoing effort to complete the Folsom Dam JFP involves three elements: (1) construction of the control structure, (2) concrete lining of the spillway chute and stilling basin, and (3) exploratory borings for the approach channel cofferdam walls. The control structure, spillway chute, and stilling basin are each major, permanent features of the Joint Federal Project; while the borings for the approach channel cofferdam are temporary actions. These borings are to be drilled solely for the purpose of gathering geotechnical information for construction of the cofferdam, which can then be used to hold lake water back during excavation efforts for the approach channel. The impacts of the excavation of the approach channel will be covered under future coordination in 2012.

Since the development of the 2007 Joint Federal Project FEIS/EIR, additional information has become available through the detailed design of the control structure, spillway chute, and stilling basin, including boring locations for the approach channel cofferdam walls. Details on aspects such as the design features, construction methods (batch plant, access, and staging), site preparation, restoration and cleanup, borrow and disposal sites, and construction personnel schedules are now known.

The Service has reviewed this information and concluded the impacts to fish and wildlife species are similar to those already analyzed in our earlier coordination efforts with the Corps on this overall project with the exception of the exploratory borings for the approach channel coffer dam. Therefore, the remainder of this letter will focus on the proposed exploratory borings.

As a part of the approach channel design, cofferdams are being considered to keep part of the site dry during construction. Exploratory borings are needed along the proposed cofferdam alignment to gather information on the location of supportive rods that would keep the cofferdam in place and help it to withstand water pressure from the upstream side of the dam. It is estimated that up to 25 borings would be needed. The borings would be drilled within the 410 to 420 foot elevation contour range of the lakebed. The holes would be spaced about 100 feet apart. The borings would be cylindrical borings that would consist of a 4-inch diameter hole extending a minimum of 25 feet into moderately weathered rock.

The borings are expected to be conducted from November 2010 to January 2011. The estimated water elevation during this time of year is expected to be near 390 feet. Therefore, it is

anticipated that most of the borings would be able to be done in the dry. However, some may have to be done in the wet.

Generally, the procedures for access and staging are the same as for the control structure. Access for the drill rig to the boring locations would be via the Folsom Point boat ramp. When drilling is done in the dry, the drill rig would be located on the lake bottom. If drilling is done in the wet, the drill rig would be mounted to a barge.

Since the equipment needed for the borings needs a relatively level surface, some minor soil reshaping might be needed, if the borings would occur in the dry. If the borings are done from a barge, no site preparation would be needed.

At the completion of the boring effort, the site, including all staging and access areas, would be returned to its pre-project condition. All equipment and excess materials would be transported offsite via the existing haul routes. The work sites and staging areas would be cleaned of all rubbish, and all parts of the work area would be left in a safe and neat condition suitable to the setting of the area.

The drilling associated with the cofferdam borings would take place intermittently, as needed between November 2010 and January 2011. Drilling would occur during the weekdays and during the daytime hours (7:00 a.m. to 5:00 p.m.). The crew would likely consist of four workers. There would be one drill rig and one hole would be drilled at a time.

Discussion

There are two potential effects of the proposed work which were not discussed in previous coordination with the Corps. The first is continued blasting in the vicinity of the spillway as part of the excavation process for the structure. This area has been highly disturbed continually for at least 3 years now with activities associated with construction of Folsom Lake Crossing road and bridge across the American River just downstream of Folsom Dam and excavation, which includes blasting, of the adjacent auxiliary spillway channel. Therefore, any wildlife species, including migratory birds, in the area have likely adjusted to the construction activities and noise levels. Monitoring for nesting migratory birds has been done in the past and should continue if blasting is conducted during the nesting season, generally February through mid-August.

The second effect is the potential to introduce aquatic nuisance species into Folsom Reservoir through use of watercraft (boats and barges) and other equipment which has been in contact with other bodies of water containing these potentially harmful species if the exploratory borings are conducted by barge. On February 3, 1999, President Clinton signed Executive Order 13112, which directs the agencies of the executive branch of the Federal government to work to prevent and control the introduction and spread of invasive species. Species that are likely to harm the environment, human health, or the economy are of particular concern. The executive order builds on the National Environmental Policy Act (NEPA) of 1969, the Federal Noxious Weed Act of 1974, and the Endangered Species Act of 1973 to prevent the introduction of invasive species; provide for their control; and take measures to minimize economic, ecological, and human health effects.

Since it is currently unknown who the contractor may be or where their equipment may come from it should be a condition that the contractor develop a Hazard Analysis and Critical Control Point Plan (HACCP) based on the following seven principles if in-water work is proposed:

- Conduct a hazard analysis. Prepare a list of steps in the process where significant hazards occur and describe preventive measures.
- Identify the critical control points (CCP) in the process.
- Establish controls for each CCP identified.
- Establish CCP monitoring requirements. Establish procedures for using monitoring results to adjust the process and maintain control.
- Establish corrective actions to be taken when monitoring indicates a deviation from an established critical limit.
- Establish procedures to verify that the HACCP system is working correctly.
- Establish effective record-keeping procedures that document the HACCP system.

To prevent the spread of aquatic nuisance species all vessels and vessel accessories should be thoroughly inspected. For watercraft and vessels with jet drives, impeller areas can contain quagga and zebra mussels and aquatic plants. Once upon the trailer, run the engine for 5 to 10 seconds to blow out excess water, mussels and plants. Before leaving water access, inspect and remove any mussels or plants from intake, steering nozzle, hull, and trailer.

- All vessels should be cleaned with a high pressure wash of hot water. This is especially important if the vessel has been moored for more than a day.
- Remove aquatic plants from boat, motor and trailer. Check all underwater fittings and equipment, such as rollers, axle, bilge and trailer, and above water equipment, such as anchors. Place any aquatic plants in trash if possible.
- Drain any lake or river water from equipment including the motor, bilges, heat exchangers and coolers. Ensure all drained areas are dry. Ensure the watercraft's lower outboard unit is drained and dry.
- Be aware that transferring a vessel that has been in infested waters will allow the spread of quagga mussels, or the closely related zebra mussels. Physically inspect all exposed surfaces. The presence of quagga mussels will feel like sandpaper to the touch. Report presence of quagga mussels to California Department of Fish and Game, hotline at (866) 440-9530, open from 8 am to 5 pm PST.
- Any vessel traveling from Lake Mead, Lake Mohave, Lake Havasu, the Colorado River, or lakes that receive water from the Colorado Aqueduct, including: Lake Skinner (Riverside County), Lake Mathews (Riverside County), San Vicente Reservoir (San Diego County), Dixon Lake (San Diego County), Lower Otay Reservoir (San Diego County), and Lake Murray (San Diego County) should remain dry and out of water for a minimum of 5 days.


Recommendations

The Service recommends the Corps implement the following measures for construction of the control structure, spillway lining and exploratory borings.

1. Monitor for the presence of nesting migratory birds in the vicinity of the proposed project and any effects blasting has on nesting behavior. Contact the Service and California Department of Fish and Game for guidance if nests are located or nesting behavior alters with blasting.
2. Require contractors involved with the boring effort to develop a Hazard Analysis and Critical Control Point Plan if in-water work is planned to minimize the potential for introduction of aquatic nuisance species into Folsom Reservoir. The Service and/or California Department of Fish and Game can be contacted for additional specific information.

If you have any questions regarding this report on the proposed project, please contact Doug Weinrich at (916) 414-6563.

Sincerely,


for M. Kathleen Wood
Assistant Field Supervisor

Enclosure

cc:

Jane Rinck, COE, Sacramento, CA

NOAA Fisheries, Sacramento, CA

Reg. Mgr, CDFG, Region 2, Rancho Cordova, CA